

# Living Systems Storyline - DRAFT

## FOSS + PAUSD Companion Guide

**Big Idea: Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials.**

**Concept I: All living things are made of cells.**

Companion Guide: Cells  
Introduction to the concept of a cell and observation of onion and human epithelial (cheek) cells

**Concept II: Plants have structures to transport materials.**

FOSS Investigation 2  
Water and minerals are transported in plants through the xylem and phloem.

**Concept III: The human circulatory system delivers food and oxygen to cells and wastes from cells.**

Companion Guide: Blood and the Heart  
Sheep Heart Dissection: The structure and function of the heart

FOSS Investigation 1: Part 1  
Structures and systems used by multi-cellular organisms to provide resources to cells

**Concept IV: The human respiratory system transports oxygen to blood and CO<sub>2</sub> from blood.**

FOSS Investigation 1: Part 1  
The respiratory and circulatory systems are interdependent

Companion Guide: Respiratory System

- Breathing
- Lung model
- Surface area exploration

**Concept V: The digestive system breaks down complex substances into simple substances, which move into the bloodstream.**

Companion Guide: Digestive System  
Breaking Down Food - Exploration of the mechanical and chemical processes that digest food

Companion Guide: Membranes and Digestion  
Diffusion and the role of the semi-permeable membrane in determining what gets into the blood

FOSS Investigation 1: Part 2  
Review of the digestive system and introduction of the excretory system

FOSS Investigation 3: Part 1  
Determine the conditions under which plants produce food (photosynthesis)

FOSS Investigation 3: Part 2 and 3  
Discover that yeast uses sugar as a food source to demonstrate cellular respiration. Measure the volume of CO<sub>2</sub> (a product of cellular respiration) resulting from cellular respiration

Companion Guide: Concept Web of Interdependence  
Class concept web of how the systems work together

**Concept VI: Plants produce their own food (sugar) through photosynthesis. Plants and animals break down sugar to obtain energy (cellular respiration).**

**Concept VIII: All of the body systems work together.**